

IN THE CLAIMS:

In line 1, delete "Patent claims:" and insert:

C L A I M S

What is claimed is:

Please cancel claims 1-23 and add the following new claims:

1.-23. (Canceled).

24. (New) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 5 to 30° ;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal

generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device and a buffer storage unit;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) an output switching device connected to the microprocessor unit for producing at least one pulse-width-modulated output signal (PW1, PW2) with selectable frequencies (F1, F2, F3, F4).

25. (New) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 5 to 30° ;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) a digital/analog converter connected to the microprocessor unit for producing an analog output signal.

26. (New) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 5 to 30° ;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) an output switching device connected to the microprocessor unit for producing a switching signal (GT).

27. (New) Floor pedal device for heavy motor vehicles, such as trucks, buses, mobile cranes, and the like, comprising in combination:

(a) a base plate element;

(b) a pedal element, movably connected to the base plate element by means of a connector device such that the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 5 to 30° ;

(c) a signal generator that is at least partially connected with the connector device and that generates a signal corresponding to pedal movement, said signal generator including a rotation angle sensor that includes at least one ASIC circuit with a Hall device;

(d) a microprocessor unit, connected to the ASIC circuit; and

(e) first and second output stages, connected to receive first and second outputs from the microprocessor unit, respectively, for producing push-pull signals (GE1, GE2).

28. (New) The floor pedal device according to claim 24, wherein the rotational angle sensor of the signal generator comprises a second ASIC circuit with a second Hall device, and wherein said floor pedal device further comprises a second microprocessor unit, connected to said second ASIC circuit, and a second output switching device connected to the second microprocessor unit for producing a second pulse-width-modulated signal (PW2) with selectable frequencies (F1, F2, F3, F4).

29. (New) The floor pedal device according to claim 25, wherein the rotational angle sensor of the signal generator further comprises a second ASIC circuit with a second Hall device, and wherein said floor pedal device further comprises a second microprocessor unit, connected to the second ASIC circuit, and a second output switching device connected to the second microprocessor unit for producing an output switching signal (GT).

30. (New) The floor pedal device according to claim 25, wherein the rotation angle sensor of the signal generator includes a second ASIC circuit with a second Hall device, and wherein the floor pedal device further comprises a second microprocessor unit connected to the second ASIC circuit, and first and second output stages, connected to receive first and second outputs from the second microprocessor unit, respectively, for producing push-pull signals (GE1, GE2).

31. (New) The floor pedal device according to claim 24, including means for adjusting the selectable frequencies (F1, F2, F3, F4) of each pulse-width-modulated output signal (PW1, PW2) with each buffer storage unit.

32. (New) The floor pedal device according claim 24, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22°.

33. (New) The floor pedal device according to claim 24, wherein the pedal element includes a return spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return spring to return the rotational angle sensor to the idle position.

34. (New) The floor pedal device according to claim 24, wherein the pedal element includes two return springs to return the pedal element to the idle position.

35. (New) The floor pedal device according to claim 24, wherein each ASIC circuit and microprocessor unit are programmable via a connector plug of the rotational angle sensor.

36. (New) The floor pedal device according to claim 24, wherein each microprocessor unit and associated buffer

storage unit is programmable via connector plugs of the rotational angle sensor.

37. (New) The floor pedal device according to claim 24, wherein the buffer storage circuits of each ASIC circuit are each implemented as an E²PROM.

38. (New) The floor pedal device according to claim 24, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30°, 35°, or 40°, and the final-position angle (γ) being 13° or 23°.

39. (New) The floor pedal device according to claim 24, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

40. (New) The floor pedal device according to claim 24, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating

signals are enclosed within a housing unit of the rotational angle sensor.

41. (New) The floor pedal device according claim 25, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22° .

42. (New) The floor pedal device according to claim 25, wherein the pedal element includes a return spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return spring to return the rotational angle sensor to the idle position.

43. (New) The floor pedal device according to claim 25, wherein the pedal element includes two return springs to return the pedal element to the idle position.

44. (New) The floor pedal device according to claim 25, wherein each ASIC circuit and microprocessor unit are programmable via a connector plug of the rotational angle sensor.

45. (New) The floor pedal device according to claim 25, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

46. (New) The floor pedal device according to claim 25, wherein the buffer storage circuits of each ASIC circuit are each implemented as an E²PROM.

47. (New) The floor pedal device according to claim 25, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30°, 35°, or 40°, and the final-position angle (γ) being 13° or 23°.

48. (New) The floor pedal device according to claim 25, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

49. (New) The floor pedal device according to claim 25, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.

50. (New) The floor pedal device according claim 26, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22° .

51. (New) The floor pedal device according to claim 26, wherein the pedal element includes a return spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return spring to return the rotational angle sensor to the idle position.

52. (New) The floor pedal device according to claim 26, wherein the pedal element includes two return springs to return the pedal element to the idle position.

53. (New) The floor pedal device according to claim 27, wherein each ASIC circuit and microprocessor unit are

programmable via a connector plug of the rotational angle sensor.

54. (New) The floor pedal device according to claim 26, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

55. (New) The floor pedal device according to claim 26, wherein the buffer storage circuits of each ASIC circuit are each implemented as an E²PROM.

56. (New) The floor pedal device according to claim 26, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30°, 35°, or 40°, and the final-position angle (γ) being 13° or 23°.

57. (New) The floor pedal device according to claim 26, wherein the ASIC circuit produces an ASIC output voltage (U_{AS}) with a linear section (U_L), the pedal angle (α) being

determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

58. (New) The floor pedal device according to claim 26, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.

59. (New) The floor pedal device according claim 27, wherein the pedal element may be moved between the idle position and the full-throttle position of an internal combustion engine through a pedal angle (α) of between 0° and 22° .

60. (New) The floor pedal device according to claim 27, wherein the pedal element includes a return spring which returns the pedal element to the idle position, and wherein the connector device includes a separate return spring to return the rotational angle sensor to the idle position.

61. (New) The floor pedal device according to claim 27, wherein the pedal element includes two return springs to return the pedal element to the idle position.

62. (New) The floor pedal device according to claim 27, wherein each ASIC circuit and microprocessor unit are programmable via a connector plug of the rotational angle sensor.

63. (New) The floor pedal device according to claim 27, wherein each microprocessor unit and associated buffer storage unit is programmable via connector plugs of the rotational angle sensor.

64. (New) The floor pedal device according to claim 27, wherein the buffer storage circuits of each ASIC circuit are each implemented as an E²PROM.

65. (New) The floor pedal device according to claim 27, wherein the pedal element in the idle position subtends a floor angle β with respect to the base plate element, and the floor angle (β) minus the pedal angle (α) is equal to the final-position angle (γ) whereas, the floor angle (β) being 30°, 35°, or 40°, and the final-position angle (γ) being 13° or 23°.

66. (New) The floor pedal device according to claim 27, wherein the ASIC circuit produces an ASIC output voltage

(U_{AS}) with a linear section (U_L), the pedal angle (α) being determined by means of the linear section (U_L) of the ASIC output voltage as the pedal element is moved.

67. (New) The floor pedal device according to claim 27, wherein the ASIC circuits along with the Hall devices, as well as the additional components required for generating signals are enclosed within a housing unit of the rotational angle sensor.